

**Peptide Array, Dengue Virus Type 3 (DEN-3),
Philippines/H87/1956, NS1 Protein****Catalog No. NR-2753**

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Product Description:

The 60-peptide array spans the NS1 protein of Dengue virus type 3, Philippines/H87/1956 (GenPept: AAA99437).¹ Peptides are 13- to 17-mers, with 11 or 12 amino acid overlaps. Please see Table 1 for length and sequence of individual peptides.

Material Provided:

Peptides are provided lyophilized at 1 mg per vial.

Packaging/Storage:

Lyophilized peptides should be placed in a closed dry environment with dessicants and stored at -20°C or colder immediately upon arrival. A frost-free freezer should be avoided, since changes in moisture and temperature may affect peptide stability.

Solubility:

Solubility may vary based on the amino acid content of the individual peptide (see Table 2).

Reconstitution:

Lyophilized peptides should be warmed to room temperature for 1 hour prior to reconstitution. They should be dissolved at the highest possible concentration, and then diluted with water or buffer to the working concentration. Buffer should be added only after the peptide is completely in solution because salts may cause aggregation.

The most common dissolution process is 1 mg of peptide in 1 mL of sterile, distilled water. Peptides that are not soluble in water can almost always be dissolved in DMSO. Once a peptide is in solution, the DMSO can be slowly diluted with aqueous medium. Care must be taken to ensure that the peptide does not begin to precipitate out of solution. For cell-based assays, 0.5% DMSO in medium is usually well-tolerated.

Sonication and/or the addition of small amounts of dilute (10%) aqueous acetic acid for basic peptides, aqueous ammonia for acidic peptides or acetonitrile may also help dissolution (see Table 2). These solvents may not be

appropriate for certain applications, including cell-based assays.

Storage of Reconstituted Peptides:

The shelf life of peptides in solution is very limited, especially for sequences containing cysteine, methionine, tryptophan, asparagine, glutamine, and N-terminal glutamic acid. In general, peptides may be aliquoted and stored in solution for a few days at -20°C or colder. For long-term storage, peptides should be re-lyophilized and stored at -20°C or colder. If long-term storage in solution is unavoidable, peptide solutions should be buffered to pH 5–6, aliquoted and stored at -20°C or colder. Freeze-thaw cycles should be avoided.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Peptide Array, Dengue Virus Type 3 (DEN-3), Philippines/H87/1956, NS1 Protein, NR-2753."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2007; see www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm.

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References:

1. Osatomi, K. and H. Sumiyoshi. "Complete Nucleotide Sequence of Dengue Type 3 Virus Genome RNA." *Virology* 176 (1990): 643–647. PubMed: 2345967.
2. Modis, Y., et al. "Variable Surface Epitopes in the Crystal Structure of Dengue Virus Type 3 Envelope Glycoprotein." *J. Virol.* 79 (2005): 1223–1231. PubMed: 15613349.

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Table 1		
Peptide	Length	Sequence
1 of 60	16	1 DMGCVINWKGKELKCG 16
2 of 60	17	6 INWKGKELKCGSGIFVT 22
3 of 60	17	11 KELKCGSGIFVTNEVHT 27
4 of 60	17	17 SGIFVTNEVHTWTEQYK 33
5 of 60	15	23 NEVHTWTEQYKFQAD 37
6 of 60	17	27 TWTEQYKFQADSPKRVA 43
7 of 60	17	33 KFQADSPKRVATAIAGA 49
8 of 60	16	39 PKRVATAIAGAWENG 54
9 of 60	17	44 TAIAGAWENGVCIRST 60
10 of 60	17	50 WENGVCIRSTTRMENL 66
11 of 60	17	56 GIRSTTRMENLLWKQIA 72
12 of 60	17	62 RMENLLWKQIANELNYI 78
13 of 60	17	68 WKQIANELNYILWENDI 84
14 of 60	17	73 NELNYILWENDIKLTVV 89
15 of 60	17	79 LWENDIKLTVVVDITG 95
16 of 60	17	85 KLTVVVDITGVLEQ GK 101
17 of 60	17	91 GDITGVLEQ GKRTLTPQ 107
18 of 60	17	97 LEQ GKRTLTPQPMELKY 113
19 of 60	17	103 TLTPQPMELKYSWKTWG 119
20 of 60	17	109 MELKYSWKTWGLAKIVT 125
21 of 60	16	115 WKTWGLAKIVTAETQN 130
22 of 60	17	120 LAKIVTAETQNSSFID 136
23 of 60	17	126 AETQNSSFIDGPSTPE 142
24 of 60	17	132 SFIDGPSTPECPASR 148
25 of 60	17	138 PSTPECPASRAWNVWE 154
26 of 60	17	144 PSASRAWNVWEVEDYGF 160
27 of 60	17	150 WNVWEVEDYGFVFTTN 166
28 of 60	17	155 VEDYGFVFTTNLWLKL 171
29 of 60	17	161 VFTTNLWLKLREVTYQ 177
30 of 60	17	167 IWLKLREVTYQLCDHRL 183

Table 1		
Peptide	Length	Sequence
31 of 60	17	172 REVYTQLCDHRLMSAAV 188
32 of 60	17	178 LCDHRLMSAAVKDERAV 194
33 of 60	17	184 MSAAVKDERAVHADMGY 200
34 of 60	17	190 DERAHVHADMGYWIESQK 206
35 of 60	17	196 ADMGYWIESQKNGSWKL 212
36 of 60	17	202 IESQKNGSWKLEKASLI 218
37 of 60	17	208 GSWKLEKASLIEVKTCT 224
38 of 60	17	214 KASLIEVKTCTWPKSHT 230
39 of 60	17	220 VKTCTWPKSHTLWSNGV 236
40 of 60	17	226 PKSHTLWSNGVLESDMI 242
41 of 60	17	232 WSNGVLESDMIIPKSLA 248
42 of 60	17	237 LESDMIIPKSLAGPISQ 253
43 of 60	17	243 IPKSLAGPISQHNHRPG 259
44 of 60	17	249 GPISQHNHRPGYHTQTA 265
45 of 60	17	255 NHRPGYHTQTAGPWHLG 271
46 of 60	17	261 HTQTAGPWHLGKLELDF 277
47 of 60	17	267 PWHLGKLELDFNYCEGT 283
48 of 60	17	273 LELDFNYCEGTTVVIS 289
49 of 60	17	279 YCEGTTVVISENCGRG 295
50 of 60	17	285 VVISENCGRGPSLRTT 301
51 of 60	17	291 CGTRGPSLRTTTVSGKL 307
52 of 60	15	297 SLRTTTVSGKLIHEW 311
53 of 60	17	301 TTVSGKLIHEWCCRST 317
54 of 60	17	307 LIHEWCCRSTLPPLRY 323
55 of 60	16	313 CRSTLPPLRYMGEDG 328
56 of 60	17	318 LPPLRYMGEDGCWYGME 334
57 of 60	17	324 MGEDGCWYGMEIRPINE 340
58 of 60	17	330 WYGMEIRPINEKEENMV 346
59 of 60	17	336 RPINEKEENMVKSLASA 352
60 of 60	13	341 KEENMVKSLASAG 353

Table 2		
Peptide	Solubility	Solvent
1 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
2 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
3 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
4 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
5 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
6 of 60	1 mg/mL	0.05% trifluoroacetic acid in water

Table 2		
Peptide	Solubility	Solvent
7 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
8 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
9 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
10 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
11 of 60	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
12 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
13 of 60	1 mg/mL	100% DMSO
14 of 60	1 mg/mL	100% DMSO
15 of 60	1 mg/mL	100% DMSO
16 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
17 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
18 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
19 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
20 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
21 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
22 of 60	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
23 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
24 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
25 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
26 of 60	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
27 of 60	1 mg/mL	100% DMSO
28 of 60	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
29 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
30 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
31 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
32 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
33 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
34 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
35 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
36 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
37 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
38 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
39 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
40 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
41 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
42 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
43 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
44 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
45 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
46 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
47 of 60	1 mg/mL	100% DMSO
48 of 60	1 mg/mL	100% DMSO

Table 2		
Peptide	Solubility	Solvent
49 of 60	1 mg/mL	100% DMSO
50 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
51 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
52 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
53 of 60	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
54 of 60	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
55 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
56 of 60	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
57 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
58 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
59 of 60	1 mg/mL	0.05% trifluoroacetic acid in water
60 of 60	1 mg/mL	0.05% trifluoroacetic acid in water